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CRT Glass Presentation

CRT Glass Recycling Options

- Glass to Glass
- Glass to Lead

Glass to Lead

- Primary Lead Production
 - Production of sinter
 - Production of elemental lead and lead alloys
- Secondary Lead Production
 - Production of elemental lead and lead alloys

The Use CRT Glass

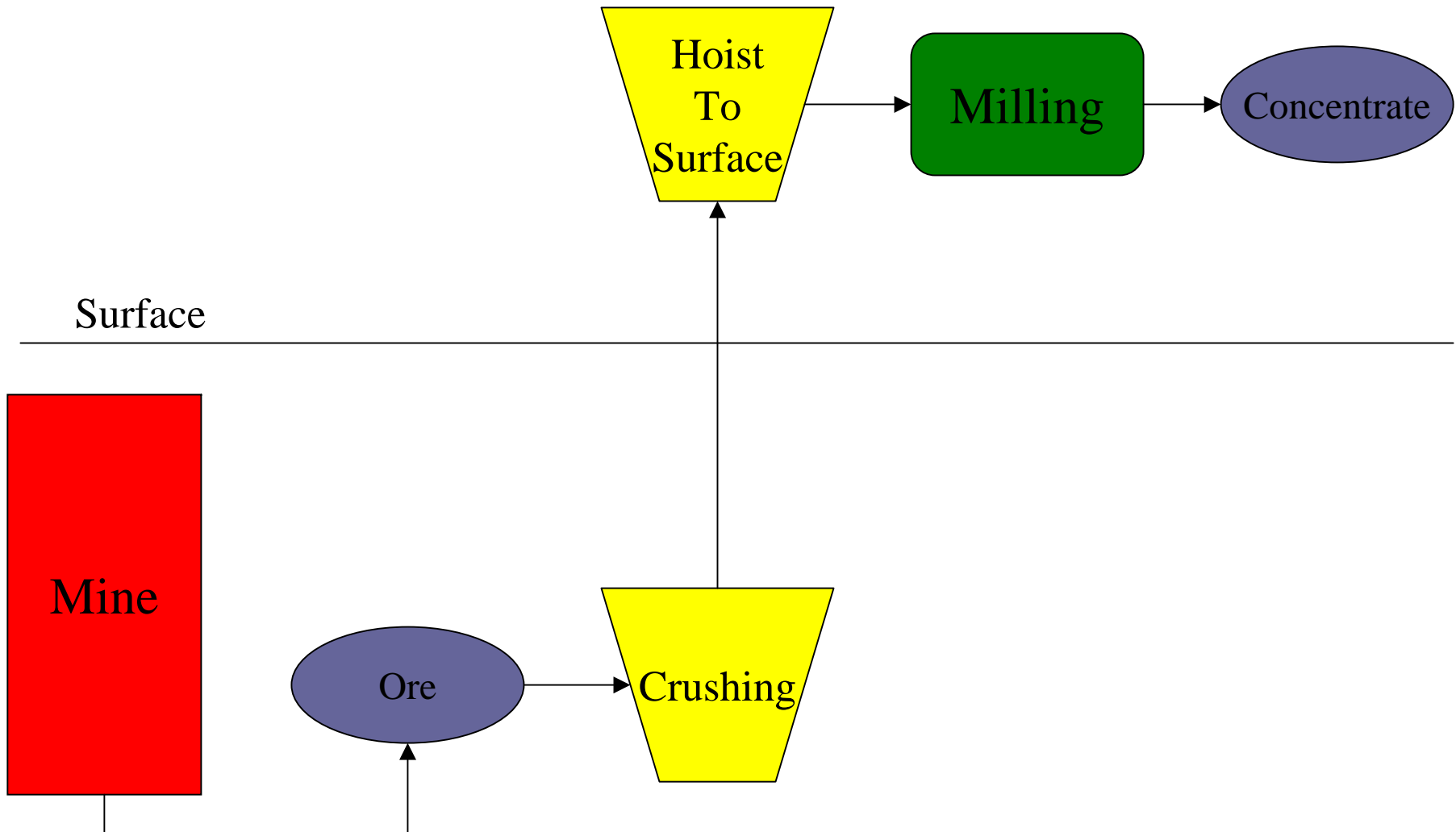
- Flux – CRT glass is primarily silica
 - Purpose of flux (fiber)
 - Create slag
 - Lower the melting temperature of the slag
 - Increase the fluidity of the slag
 - Optimize the pH of the molten metal
- Recoverable lead units
 - Primary
 - Replaces ore
 - Secondary
 - Another type of feedstock

Primary Lead Production

- Mine (ore)
- Lead concentrate
- Sinter
- Smelting
- Refining
- Casting



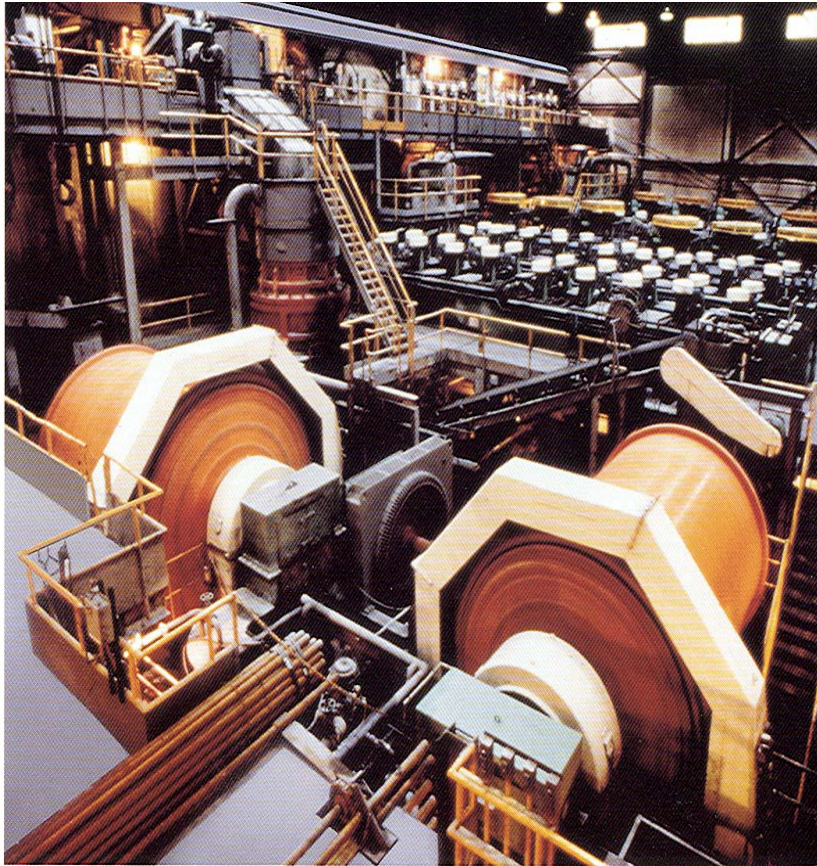
Mining/Milling Lead Ore



Galena & Mine Site

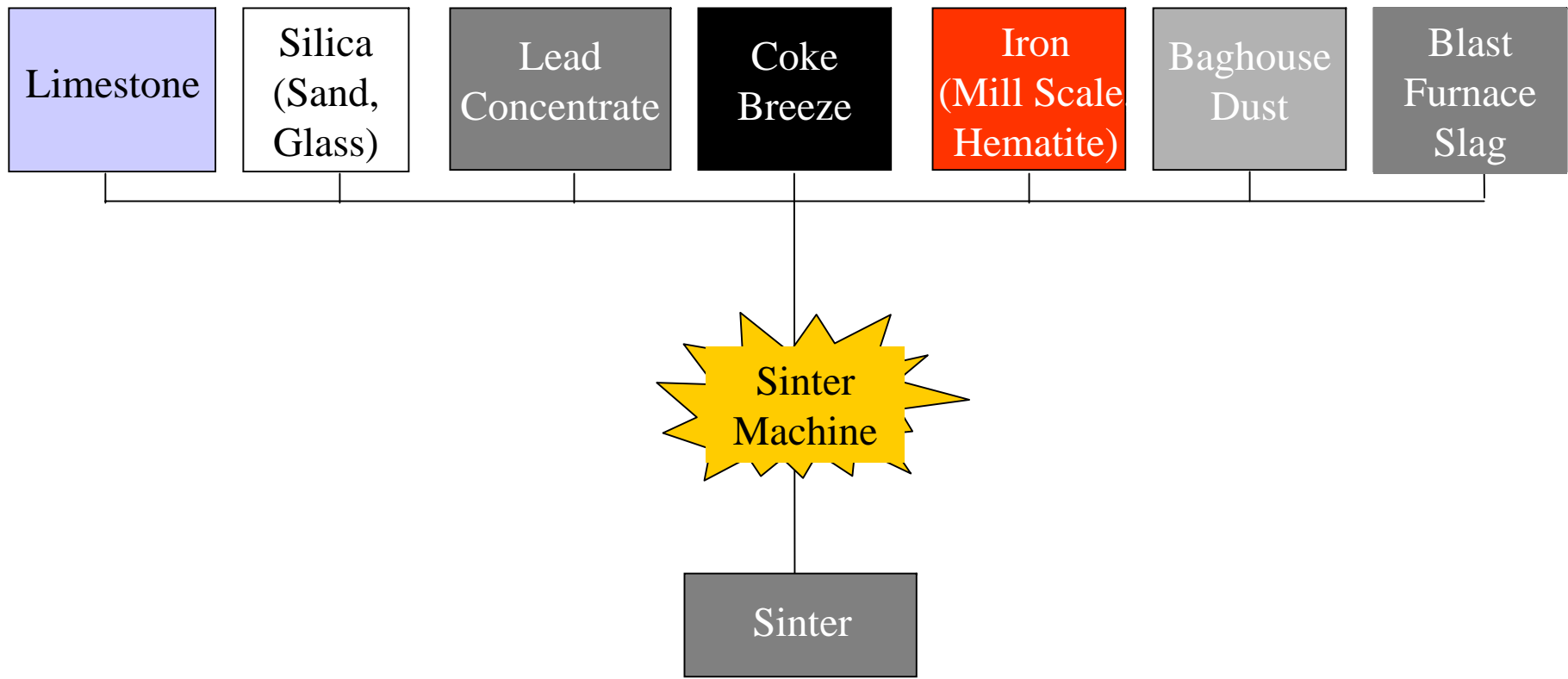


Milling & Pb Concentrate



Primary Lead Smelting

Sinter Production





Coke
Breeze



Limestone



Iron
(Mill Scale,
Hematite)



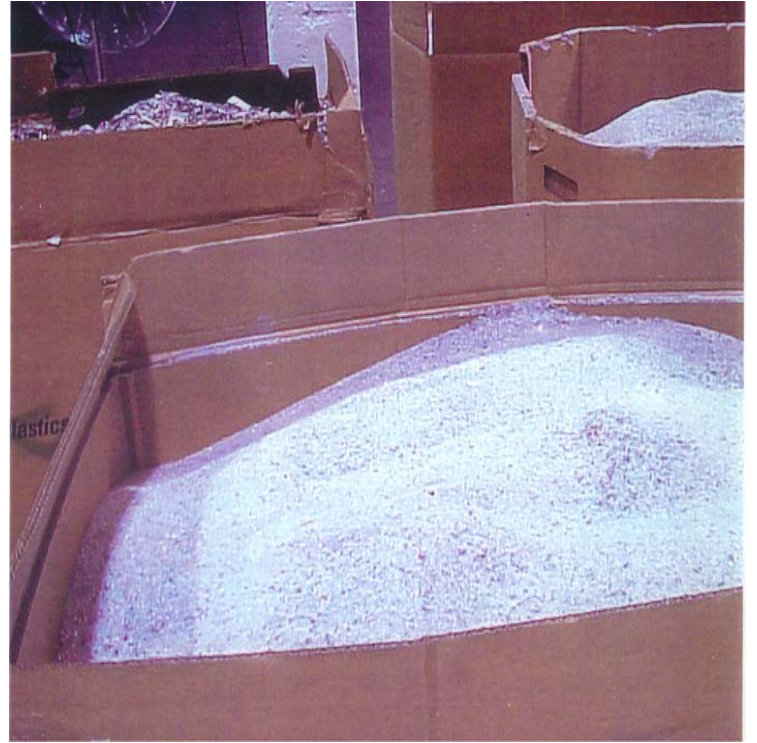
Lead
Concentrate

Silica



Sand

=



CRT Glass

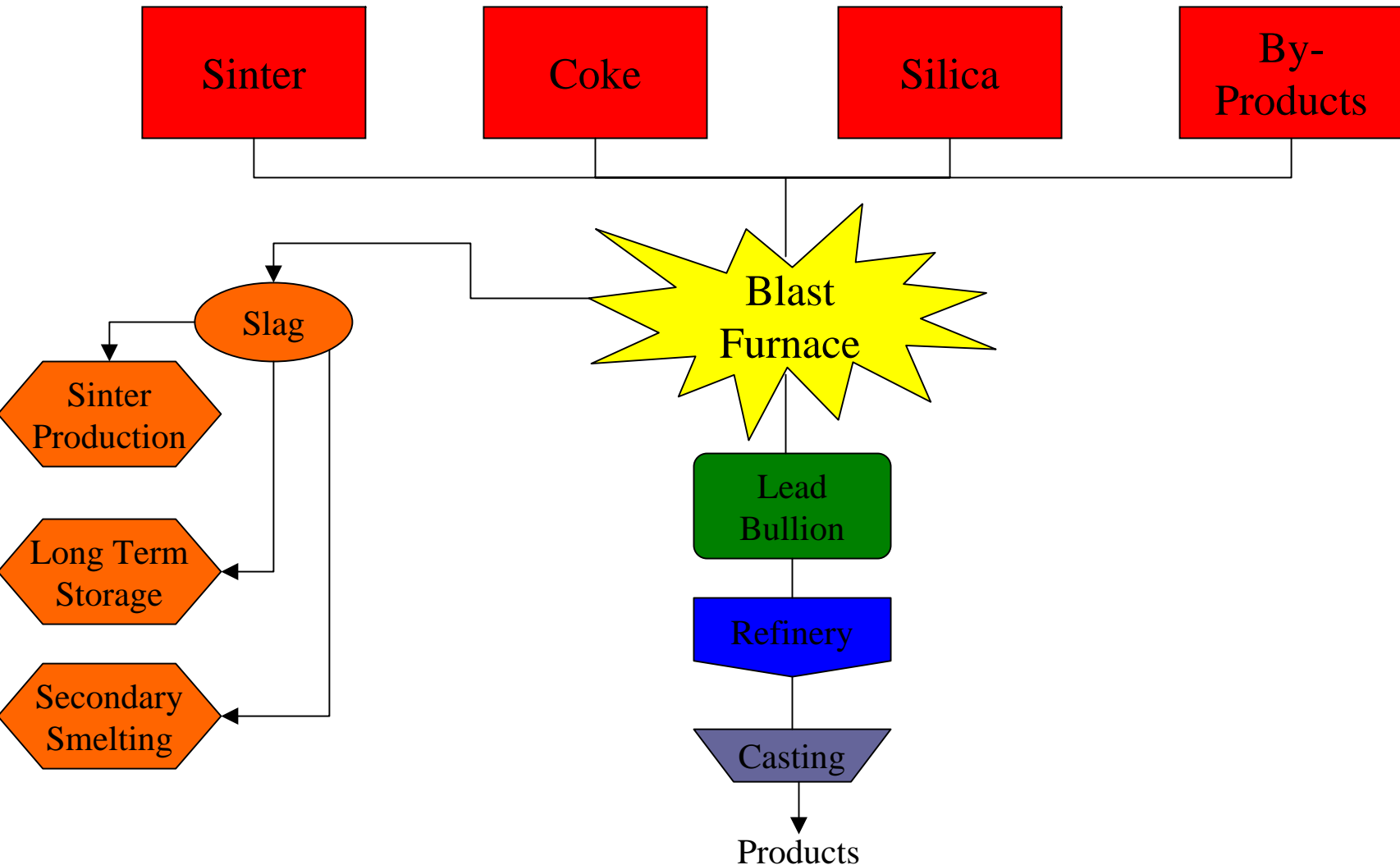






Primary Lead Smelting

-Utilizing Blast Furnace Technology-













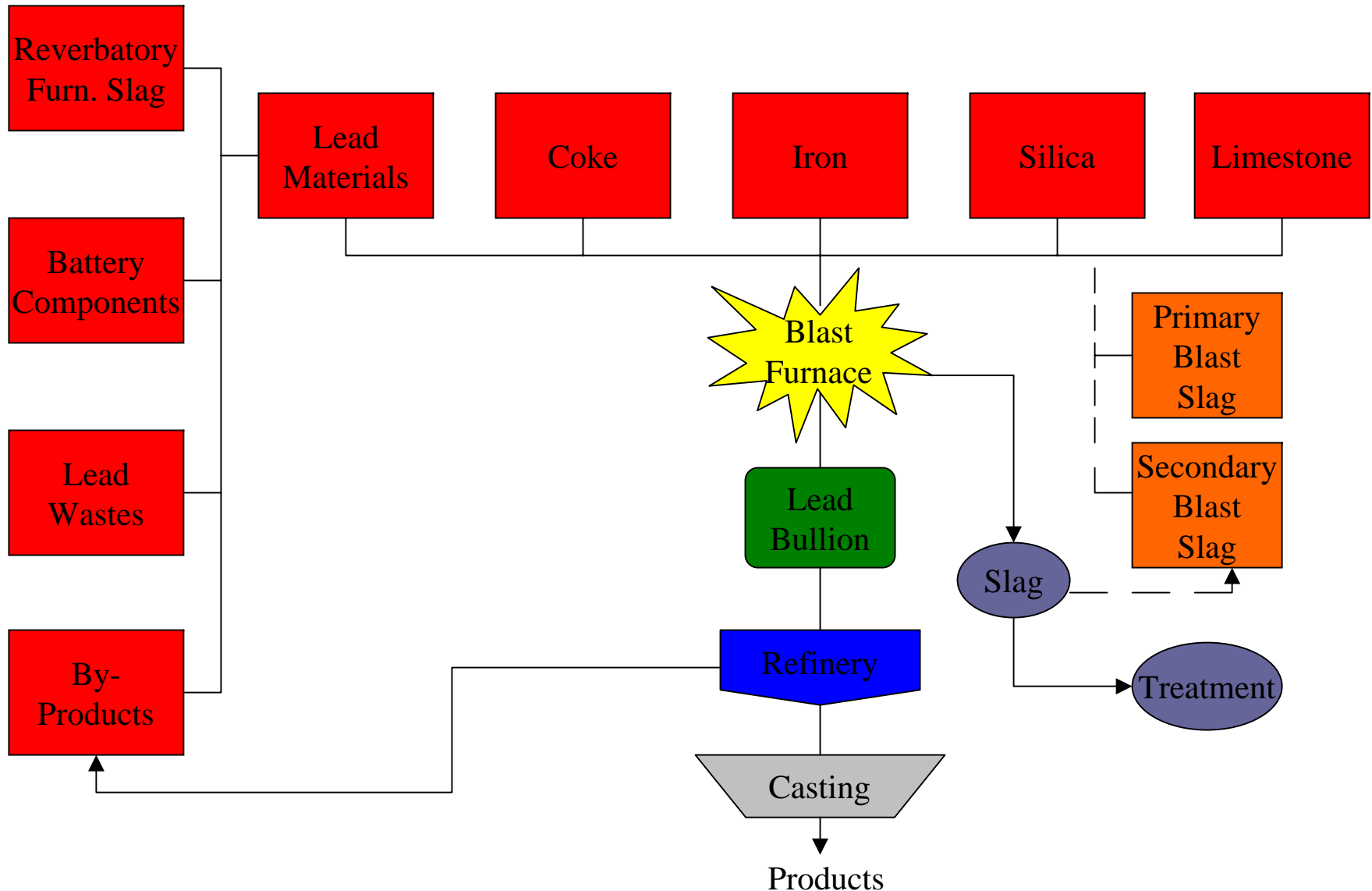
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Secondary Lead Production



Secondary Lead Smelting

-Utilizing Blast Furnace Technology-





Silica

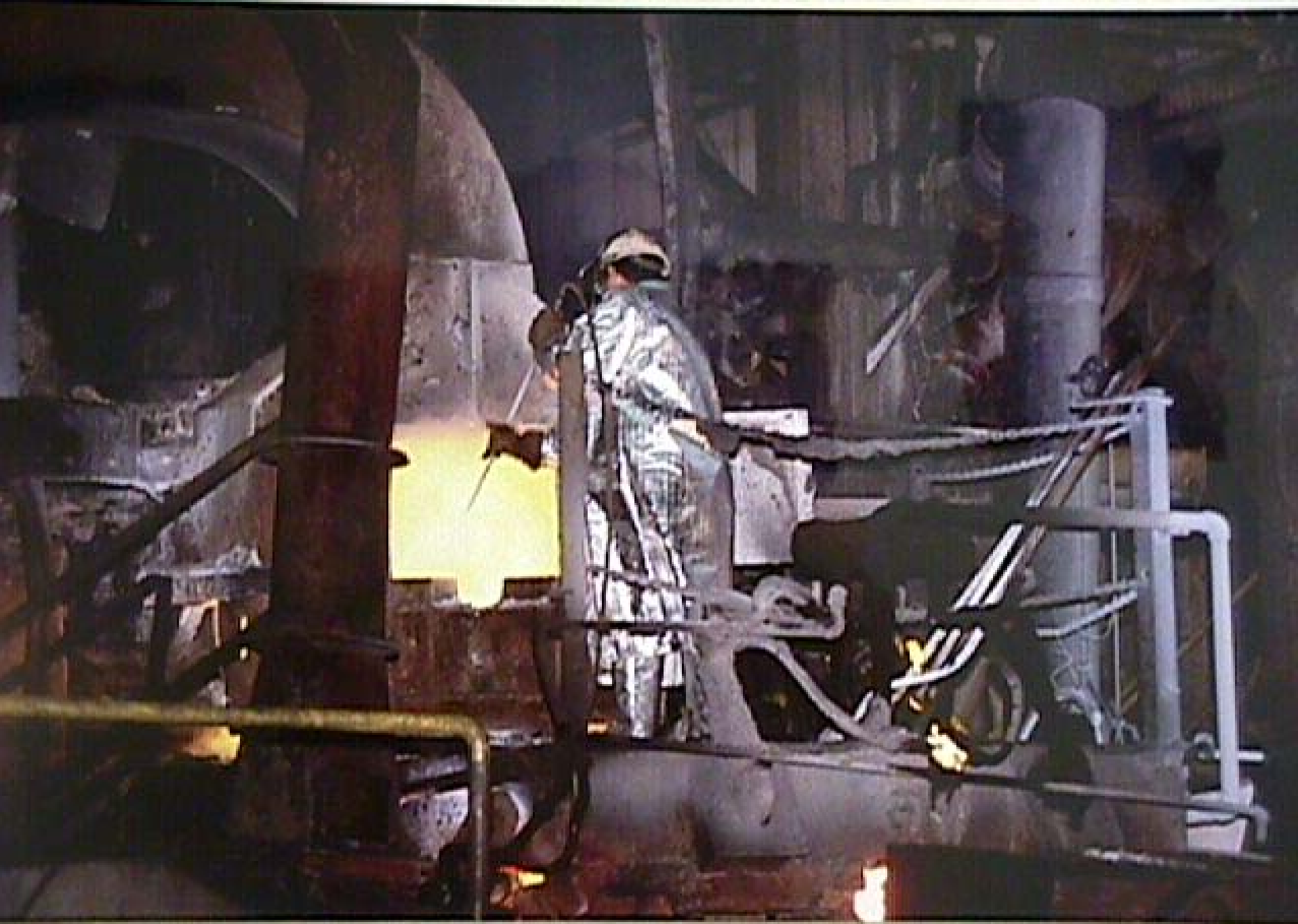


Sand

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CRT Glass











Lead Oxide CRT Glass

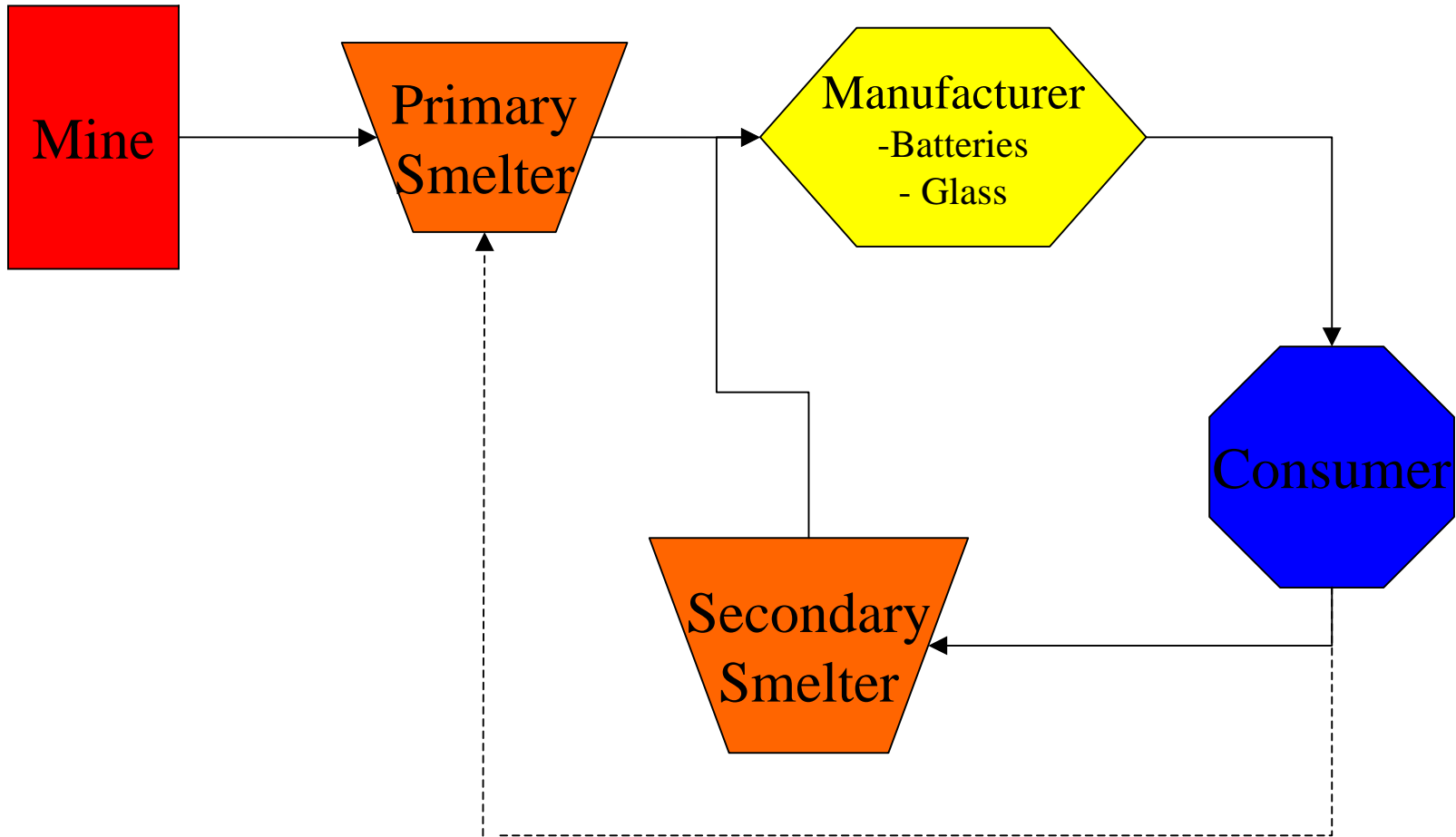


Uses of Lead

- Major Uses
 - Batteries
 - Ammunition
 - Radiation Protection
 - Doors
 - Walls
 - Windows
 - Aprons
 - Glass (CRT's)
- Minor Uses
 - Wheelweights
 - Cable Sheathing
 - Alloys

Glass to Lead

Closed Loop Recycling



Why is Glass to Lead Good For The Environment

- Silica from glass displaces any energy and environmental impacts associated with mining naturally occurring silica
- Silica used in a primary lead smelter is used numerous times within the process
- Lead is recovered and manufactured into new products

Why is Glass to Lead Good For The Environment

- The contained lead is in the form of an oxide and not sulfide (ore) therefore the recycling process avoids the environmental impacts associated with producing and managing sulfur gas
- The lead contained in CRT glass is higher than the lead content in mined ore therefore less environmental impact

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